





JOINT POW/MIA ACCOUNTING COMMAND "UNTIL THEY ARE HOME"





### JOINT POW/MIA ACCOUNTING COMMAND

"Until They Are Home"

### THE JPAC MISSION



The Joint POW/MIA Accounting Command's mission is to achieve the fullest possible accounting of all Americans missing as a result of our nation's past conflicts.

The Command is located on the island of Oahu in Hawaii and was activated Oct. 1, 2003. Employing more than 400 joint military and civilian personnel, JPAC has spanned the globe in search of missing Americans for more than 30 years.

The laboratory portion of JPAC, referred to as the Central Identification Laboratory, is the largest forensic anthropology laboratory in the world. The command maintains three permanent overseas detachments to assist with command and control, logistics and in-country support during investigation and recovery operations. They are Detachment One located in Bangkok, Thailand; Detachment Two in Hanoi, Vietnam; and Detachment Three in Vientiane, Laos. Detachment Four, located at Joint Base Pearl Harbor-Hickam, Hawaii, is responsible for recovery team personnel when they are not deployed.

Personnel from JPAC, along with other U.S. and foreign specialists, research, investigate, recover and identify remains of Americans unaccounted-for from World War II, the Korean

War, the Vietnam War and the Cold War.

The accounting process is organized into the following areas: analysis and investigation, recovery operations and identifications.

### **ANALYSIS & INVESTIGATION**

### RESEARCH

The search for unaccounted-for Americans starts with in-depth research by JPAC historians and analysts. These experts gather information from records, archives, interviews and other sources.

Researchers take this information and create a "loss incident case file" for each unaccounted-for individual. This file includes historical background, military medical and personnel records, unit histories, official correspondence, maps, photographs and other evidence. This groundwork lays the foundation to locate possible sites where American MIAs may be located.

### INVESTIGATION

After evidence and information is gathered, JPAC sends out an investigative team to potential sites. Each team consists of four to nine people including a team leader, analyst, linguist, communication technician and medic. In some instances, an anthropologist, explosive ordnance disposal technician, forensic photographer and life support technician augment the team.

These teams survey potential recovery sites so that recovery teams have the most up-to-date

in future recoveries. Most importantly, investigative teams help determine if and when JPAC should send a recovery team to excavate a potential site.

The analysis and investigation section also provides historical analysis to help with the identification of remains. At any given time, there are more than 1,000 active case files under investigation.

### RECOVERY OPERATIONS

#### EXCAVATION

Once the decision has been made to excavate a site, a recovery team is activated. The command has 18 recovery teams consisting of 10 to 14 people including a forensic anthropologist, team leader and sergeant, linguist, medic, life support technician, communications technician, forensic photographer, explosive ordnance disposal technician and mortuary affairs specialists. Standard recovery missions last 35 to 60 days depending on the location and recovery methods used on site.

Team members have to be in top physical condition to reach excavation sites, which are often in very remote places. Teams routinely walk through dense jungles, hike mountains and glaciers and rappel down cliffs to reach a site. Each team travels with up to 10,000 pounds in survival and excavation equipment. Recovery sites can be as small as a few meters for individual burials to areas exceeding the size of a football field for aircraft crashes.



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Recovery teams use standard field archaeology methods in the excavation as directed by the on-site anthropologist. At a recovery site, the anthropologist, also referred to as the recovery leader, directs the excavation much like a detective oversees a crime scene. Each mission is unique, but there are certain processes each recovery has in common.

The first step is for the anthropologist to define the site or determine the site perimeter. Once a site perimeter has been defined, the anthropologist establishes a grid system and sections the site with stakes and string.

Each section is then excavated one grid at a time. Every inch of soil that comes out of the site is screened for any potential remains, life support equipment or material evidence. To help with what can be a massive soil removal effort, JPAC may hire anywhere from a few to more than 100 local workers.

Initial analysis occurs at the site, and the recovered evidence is brought back to the lab for further examination.

### ARRIVAL CEREMONY

Once the recovery effort is completed, the team returns to Hawaii. All remains and artifacts found during the recovery operation are transported to JPAC's Central Identification Laboratory for analysis.

In honor of the sacrifice made by those individuals whose remains were recovered during a recovery mission, JPAC holds an arrival

ceremony with a joint service honor guard and senior officers from each service. Veterans, community members and local active-duty military often attend the ceremonies to pay their respects as the remains are transported to the lab for analysis.

### IDENTIFICATION

Upon arrival at the lab, all remains and artifacts recovered from a site are signed over to an evidence coordinator and stored in a secure area. Forensic anthropologists are responsible for the analysis of human remains and material evidence, such as military uniforms, personal effects and identification tags.

Forensic anthropologists first examine all recovered skeletal remains in order to produce a "biological profile." This profile includes sex, race, age at death and stature. Anthropologists may also analyze trauma caused at or near the time of death and pathological conditions of bone such as arthritis or previous healed breaks.

The forensic anthropologist assigned the case in the laboratory is not the individual who completed the recovery in the field. This entire procedure is carried out in the "blind," meaning the anthropologist does not know the suspected identity of the individual under analysis. However, scientists are provided specific details that are required to select the appropriate scientific techniques (i.e., the approximate area of the loss incident.) The blind analysis is completed in order to prevent any subconscious bias from influencing the scientist's analysis.

Scientists use a variety of techniques to establish the identification of missing Americans, including analysis of skeletal and dental remains, sampling mitochondrial DNA, and analyzing material evidence, personal effects and life support equipment. The JPAC scientific director evaluates these overlapping lines of evidence in an effort to identify the remains.

### CENTRAL IDENTIFICATION LAB

The CIL is the most scientifically diverse skeletal identification laboratory in the world and is staffed by more than 30 forensic anthropologists, archaeologists and odontologists (dentists).

In 2008, the CIL became the second federal laboratory to pass the American Society of Crime Laboratory Directors-Laboratory Accreditation Board. The command mantains the highest level of scientific competence and integrity possible to ensure the ethical standing is beyond reproach.

Additional capabilities include: alternate light source analysis, scanning electron microscopy, digital radiography, bone histological analysis, ground penetrating radar and a full array of underwater survey equipment.

### FORENSIC ODONTOLOGY

Dental remains are extremely important to the identification process. They offer the best means of positive identification, they are durable and may contain surviving mitochondrial DNA.



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An individual's dental records are often the best way to identify remains because they are durable, have characteristics unique to each person and may contain surviving mtDNA. Ideally, JPAC's forensic odontologists will have antemortem (before death) X-rays to use for comparison, but even handwritten charts and treatment notes can be critical to the identification process.

### MITOCHONDRIAL DNA

Unlike nuclear DNA, which is unique to that person, mtDNA is passed directly from a person's mother. Generally, all persons of the same maternal line have the same mtDNA sequences. Since these sequences are rare but not unique within the general population, they cannot stand alone as evidence for identification.

The lab uses mtDNA in about three-quarters of its cases. Samples taken from bones and teeth are analyzed at the Armed Forces DNA Identification Laboratory, to determine the genetic sequence. This sequence is compared with sequences from family reference samples provided by living individuals who are maternally related to unidentified Americans. These family reference samples are collected as needed by the casualty and mortuary offices.

### CLOSURE

While JPAC identifies an American about every 2.5 days, the recovery and identification process may take years. Approximately 75-100 MIAs are identified, on average, per year. Once a case is complete, the information is transferred to the appropriate service mortuary affairs office who personally notifies the family of the identification.

### FORENSIC SCIENCE ACADEMY



In 2008, the CIL opened the Forensic Science Academy, an advanced forensic anthropology program consisting of five courses taught under the auspices of the Department of

Defense. Their mission is to serve as a scientific training center of excellence for forensic anthropology, archaeology and odontology.

In the lab, Fellows receive training in anthropology, archaeology and odontology, and train in a variety of techniques and identification methods in a unique and technologically advanced laboratory. They are assigned skeletal cases and are required to submit forensic anthropology reports detailing their findings.

In the field, Fellows assist in an archaelogical excavation during a 35-day mission to Laos or Vietnam. Fellows also study at Khon Kaen University, Thailand, honing their skills in human variation, bone disease and innovative identification methods.

### JOINT POW/MIA ACCOUNTING COMMAND

2012 13-Month Calendar

### JPAC Leadership

Commander

Maj. Gen. Stephen Tom

U.S. Army

**Deputy Commander** 

Col. Alan Thoma U.S. Marine Corps

Command Senior Enlisted Leader

Command Sgt. Maj. Hector Davila, U.S. Army

Deputy to the Cmdr for Public Relations and Legislative Affairs

Mr. Johnie Webb

Deputy to the Cmdr

Dr. Thomas Holland for Central Identification Laboratory Operations

### JPAC Public Affairs and Design Staff

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Deputy Director

Ms. Michelle Thomas

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Staff Sgt. Matthew Plew

U.S. Air Force

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Mr. Lee Tucker

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JPAC Forensic Imaging

Center

### Follow Our Mission

### Joint POW/MIA Accounting Command

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Google+ www.plus.google.com/JPACTeams



(Bottom) Dr. Greg Fox, a forensic anthropologist with the Joint POW/MIA Accounting Command, removes land survey equipment from an Mi-17 helicopter to research a purported aircraft crash site. Standard recovery missions can last 35 to 60 days depending on the location of the site, terrain and recovery methods used during excavation.

ACCOUNTING		DI S	POW-MIA		
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
2	3	4	5	6	7
New Year's Day (observed)					
9	10	11	12	13	14
16	17 Operation Desert Storm Begins, 1991	18	19	20	21
Martin Luther King, Jr. Day					
23	24	25	26	27	28 DPMO Family Update Tampa, Fla.
30	31	Ī	2	3	4
	New Year's Day (observed)  9  16  Martin Luther King, Jr. Day 23	Monday Tuesday  2 3  New Year's Day (observed) 9 10  16 17 Operation Desert Storm Begins, 1991  Martin Luther King, Jr. Day 23 24	Monday Tuesday Wednesday  Tuesday  Tues	Monday Tuesday Wednesday Thursday  2 3 4 5  New Year's Day (observed)  9 10 11 12  16 17 Operation Desert Storm Begins, 1991  Martin Luther King, Jr. Day 23 24 25 26	Monday         Tuesday         Wednesday         Thursday         Friday           2         3         4         5         6           New Year's Day (observed)         9         10         11         12         13           16         17 Operation Desert Storm Begins, 1991         18         19         20           Martin Luther King, Jr. Day         23         24         25         26         27

January 2012



(Far Right) Dr. Sean Tallman, a forensic anthropologist at the Joint POW/MIA Accounting Command's Central Identification Laboratory, examines skeletal remains to construct the biological profile of an unknown individual. In 2008, the CIL became the 2nd federal laboratory to pass the American Society of Crime Laboratory Directors-Laboratory Accreditation Board International Standards Program.

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Sunday	JPAC * Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
29	30	31	I	2	3	4
				Groundhog Day		
5	6	7	8	9	10	П
I 2 Operation Homecoming Vietnam, 1973	13	14	15	16	17	18
incoln's Birthday		Valentine's Day				
19	20	21	22	23	24	25 DPMO Family Update Dallas, Texas
	Presidents' Day		Washington's Birthday			
26	27	28 Operation Desert Storm Ends, 1991	29		2	3
January 2012	March 2012					

15 16 17 18 19 20 21

22 23 24 25 26 27 28

29 30 31

| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |

25 26 27 28 29 30 31

February 2012



(Bottom) Recovery team members from the Joint POW/MIA Accounting Command search for remains and personal effects while excavating a remote recovery site in the Socialist Republic of Vietnam. Approximately 35 JPAC team members excavated burial and aircraft crash sites for five Americans during the 35-day mission, which marked the 104th Joint Field Activity in Vietnam.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
26	27	28	29		2	3
4	5	6	7	8	9	10
	12	13	14	15	16	17
aylight Savings Time agins   8	19	20	21	22	23	St. Patrick's Day
25	26	27	28	29	30	31

		Febr	uary	2012	2		April 2012						
S	Μ	Τ	W	T	F	S	S	M	Т	W	Т	F	S
			-	2	3	4	-	2	3	4	5	6	7
5	6	7	8	9	10	11	8	9	10	$\Box$	12	13	14
12	13	14	15	16	17	18	15	16	17	18	19	20	21
19	20	21	22	23	24	25	22	23	24	25	26	27	28
26	27	28	29				29	30					

March 2012



(Far Left) Forensic anthropologist Kristin Baker sifts through World War II-era aircraft wreckage during a Joint POW/MIA Accounting Command recovery mission in the Independent State of Papua New Guinea. (Bottom Right) The Heroes Green Memorial stands in remembrance at the Joint POW/MIA Accounting Command to honor the 16 U.S. and Vietnamese members who perished after an Mi-17 helicopter crashed in 2001.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	2	3	4	5	6	7 Heroes Green Memorial Day
April Fool's Day						
8	9	10	П	12	13	14
15	16	17	18	*Korean/Cold War Annual Meeting Washington D.C.	20 *Korean/Cold War Annual Meeting Washington D.C.	21
Tax Day					Operation Little Switch Begins. Korea, 1953	
22	23	24	25	26	27	28
Earth Day						
29	30 Vietnam War Ends, 1975	1	2	3	4	5

March 2012									Má	y 20	12			
S	Μ	Т	W											* DPMO dates are tentative.
				- 1	2	3			- 1	2	3	4	5	Please check the DPMO website a
4	5	6	7	8	9	10	6	7	8	9	10	11	12	www.dtic.mil/dpmo/family_events/
11	12	13	14	15	16	17	13	14	15	16	17	18	19	
18	19	20	21	22	23	24	20	21	22	23	24	25	26	
25	26	27	28	29	30	31	27	28	29	30	31			



(Bottom) A Joint POW/MIA Accounting Command honor guard escorts a transfer case from a U.S. military aircraft during an Arrival Ceremony to honor individuals whose identities remain unknown. Veterans, community members and local active-duty military attend the ceremonies to pay their respects to those who paid the supreme sacrifice in service to our nation.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
29	30	Ù.	2	3 Operation Little Switch Ends. Korea, 1953	4	5
6	7	8 Victory in Europe Day, 1945	9	10	II	12
13	14	15	16	17	18	1 9 *DPMO Family Update Indianapolis, Ind.
Mother's Day						
20	21	22	23	24	25	26
27	28	29	30	31		2

Memorial	Day
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April 2012								June 2012							
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22	23	24	25	26	27	28		17	18	19	20	21	22	23	
29	30							24	25	26	27	28	29	30	

<sup>\*</sup> DPMO dates are tentative. Please check the DPMO website at www.dtic.mil/dpmo/family\_events/



(Top Left) Dr. Allysha Winburn, a forensic anthropologist with the Joint POW/MIA Accounting Command, draws a site map during a recovery mission in the Lao People's Democratic Republic. Winburn searched alongside a 9-person recovery team for 35 days for Americans who remain unaccounted-for from the Vietnam War.

Sunday	* Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
27	28	29	30	31	1	2
3	4	5	6	7	8	9
10	II	12	13	1 4  *Vietnam War Annual Meeting, Washington, D.C. United States Army Birthday, 1775  Flag Day	15 *Vietnam War Annual Meeting, Washington, D.C.	16 *Vietnam War Annual Meeting, Washington, D.C
17	18	19	20	21	22	23
Father's Day						
24	25 Korean War Begins, 1950	26	27	28	29	30
May 2012						

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S M T W T F S I 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 \* DPMO dates are tentative. Please check the DPMO website at www.dtic.mil/dpmo/family\_events/



(Top Left) Pvt. Goldstein of the 544th Engineer Team (Diving), Ft. Eustis, Va., conducts pre-dive checks before performing underwater dredging operations in the Chloong River, Kingdom of Cambodia. Divers from the 544th augment the Joint POW/MIA Accounting Command as they search for remains of unaccounted-for Americans lost during the Vietnam War.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	7
	437		Independence Day			
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
operation Glory Begins. orea, 1954					Korean War Armistice Signed, 1953	
29	30	31		2	3	4

June 20   2									August 2012							
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					- 1	2						2	3	4		
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10	$\Pi$	12	13	14	15	16		12	13	14	15	16	17	13		
17	18	19	20	21	22	23		19	20	21	22	23	24	2.		
24	25	26	27	28	29	30		26	27	28	29	30	31			



(Far Left) Maj. Gen. Stephen Tom, Commander, Joint POW/MIA Accounting Command, provides remarks during JPAC's POW/MIA Recognition Day ceremony. (Bottom Right) An artist rendering of JPAC's new state-of-the-art facility, which broke ground on Aug. 30, 2011. When complete, the new building will consolidate several functional areas into a single, three-story structure.

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Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
29	30	31	Ī	2	3	4 United States Coast Guard Birthday, 1790
5 Operation Big Switch Begins. Corea, 1953	6	7	8	9	10	II
12	13	14	15	16	17	I 8 *DPMO Family Update Providence, R.I.
19	20	21	22	23	24	25
26	27	28	29	30 Operation Glory Ends. Korea, 1954 JPAC Breaks Ground on New Facility, 2011	31	ſ

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22 23 24 25 26 27 28
29 30 31

\* DPMO dates are tentative. Please check the DPMO website at www.dtic.mil/dpmo/family\_events/

August 2012



(Far Right) Air Force Col. Sam Barrett, (left) and Command Chief Master Sgt. Craig Recker present a wreath during a POW/MIA Recognition Day ceremony at the National Memorial Cemetery of the Pacific. The annual ceremony, hosted by the Joint POW/MIA Accounting Command, honors former American Prisoners of War who suffered the hardships of enemy captivity and those still Missing in Action.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
August 2012  S M T W T F S	October 2012  S M T W T F S	28	29	30	31	
2 World War II Ends, 1945	3	4	5	6	7	8
9	Labor Day	 Patriot Day	12	13	14	I 5 *DPMO Family Update Des Moines, Iowa
16	17	I 8 United States Air Force Birthday, 1947	19	20	2 I National POW/MIA Recognition Day	22
23	24	25	26	27	28	29
30	T	2 * DDMO dates are tentative	_			

<sup>\*</sup> DPMO dates are tentative. Please check the DPMO website at www.dtic.mil/dpmo/family\_events/



(Far Left) Dr. Derek Benedix, a forensic anthropologist from the Joint POW/MIA Accounting Command, sorts through aircraft wreckage while searching at a remote recovery site in the Lao People's Democratic Republic. A specialized team deployed from Joint Base Pearl Harbor-Hickam, Hawaii, for more than 30 days searching for the remains of Americans lost during the Vietnam War.

Sunda	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
30	The Joint POW/MIA Accounting Command is created, 2003	2	3	4	5	6
7	8	9	10	11	12	I 3 United States Navy Birthday, 1775
	Columbus Day					
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31		2	3
	1		Halloween			

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9 10 11 12 13 14 15 11 12 13 14 15 16 17
16 17 18 19 20 21 22 18 19 20 21 22 23 24
23 24 25 26 27 28 29 25 26 27 28 29 30
30

October 2012



(Far Left) A local veteran honors fallen U.S. personnel whose identities remain unknown during a Joint POW/MIA Accounting Command Arrival Ceremony at Joint Base Pearl Harbor-Hickam, Hawaii. The ultimate goal of JPAC, and of the agencies involved in returning America's heroes home, is to achieve the fullest possible accounting of Americans lost during the nation's past conflicts.

Sunday	* JPAC * Monday	Tuesday	Wednesday	Thursday		Saturday
28	29	30	31	 Vietnam War Begins	2 s, 1955	3
4	5	6	7	8	9	I O United States Marine Corps Birthday, 1775
Daylight Savings Time	Ends	Election Day				
П	12	13	14	15	16	17
Veteran's Day	Veteran's Day (Observed)					
18	19	20	21	22	23	24
				Thanksgiving Day		
25	26	27	28	29	30	

S M T W T F S 6 6 7 8 9 16 17 18 19 20 20 21 22 23 24 25 26 27 28 29 30 31

October 2012

December 2012

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2 3 4 5 6 7 8
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November 2012

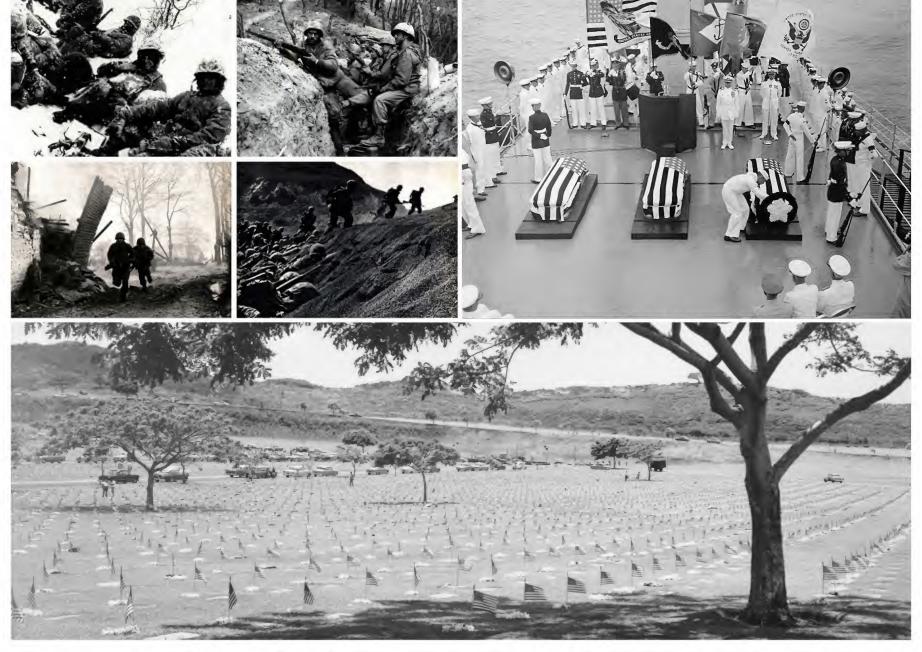
DOW\*MIA



(Far Right) Dr. Carl Stephan, a forensic anthropologist at the Joint POW/MIA Accounting Command's Central Identification Laboratory, examines skeletal remains to construct the biological profile of an unknown individual. The CIL maintains the highest level of scientific competence and integrity possible to ensure the ethical standing is beyond reproach.

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Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
November 2012  S M T W T F S	January 2013  S M T W T F S	27	28	29	30	
2	3	4	5	6	7	8
					Pearl Harbor Day	
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23 Operation Big Switch Ends. Korea, 1953	24	25	26	27	28	29
		Christmas Day				_
30	31	4.0				

# December 2012



Historical photos documenting the accounting mission. (Bottom) More than 2,800 unknowns from World War II and the Korean War are buried at the National Memorial Cemetery of the Pacific. The Honolulu Memorial honors the sacrifices and achievements of American service members in the Pacific. The names of those individuals who are missing in action, lost or buried at sea are listed on the Courts of the Missing.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
30	31	1	2	3	4	5
		New Year's Day				<u> </u>
6	7	8	9	10	П	12
13	14	15	16	17 Operation Desert Storm Begins, 1991	18	19
20	21	22	23	24	25	26
	Martin Luther King, Jr. Day					
27	28	29	30	31		2

January 2013



The Joint POW/MIA Accounting Command remembers those who have died while serving our nation and honors their families with an unwavering devotion to the search for their missing loved ones. Thank you for the continued commitment by families, veterans and patriots who remain passionate about finding answers to keep our loved one's memories alive.